

Methods of setting purchase prices and of calculating pole attachment rates generally are prescribed by federal and state regulatory authorities.

The number of parties wishing to participate in pole sharing arrangements should only increase with the advent of competition in local telecommunications markets. Economic and institutional factors strongly support reliance on pole sharing arrangements. It makes economic sense for power companies, cable companies and telephone companies to share pole space because they are all serving the same customer. Moreover, most local authorities restrict sharply the number of poles that can be placed on any particular right-of-way, thus rendering pole space a scarce resource. The Federal Telecommunications Act reinforces and regulates the market for pole space by prescribing nondiscriminatory access to poles (as well as to conduit and other rights-of-way) for any service provider that seeks access. The aerial distribution share factors displayed below capture a forward-looking view of the importance of these arrangements in an increasingly competitive local market.

Structure Sharing Parameters

The Hatfield Model captures the effects of structure sharing arrangements through the use of user-adjustable structure sharing parameters. These define the fraction of total required investment that will be borne by the LEC for distribution and feeder poles, and for trenching used as structure to support buried and underground telephone cables. Since best forward looking practice indicates that structure will be shared among LECs, IXC's, CAPs, cable companies, and other utilities, default structure sharing parameters are assumed to be less than one. Incumbent telephone companies, then, should be expected to bear only a portion of the forward-looking costs of placing structure, with the remainder to be assumed by other users of this structure.

The default LEC structure share percentages displayed below reflect most likely, technically feasible structure sharing arrangements. For both distribution and feeder facilities, structure share percentages vary by facility type to reflect differences in the degree to which structure associated with aerial, buried or underground facilities can reasonably be shared. Structure share parameters for aerial and underground facilities also vary by density zone to reflect the presence of more extensive sharing opportunities in urban and suburban areas. In addition, LEC shares of buried feeder structure are larger than buried distribution structure shares because a LEC's ability to share buried feeder structure with power companies is less over the relatively longer routes that differentiate feeder runs from distribution runs. This is because power companies generally do not share trenches with telephone facilities over distances exceeding 2500 ft.¹

¹ A LEC's sharing of trenches with power companies, using random separation between cables for distances greater than 2,500 feet requires that either the telecommunications cable have no metallic components (i.e., fiber cable), or that both companies follow "Multi-Grounded Neutral" practices (use the same connection to earth ground at least every 2,500 feet)

Default Values in HM 3.1

Structure Percent Assigned to Telephone Company						
Density Zone	Distribution			Feeder		
	Aerial	Buried	Under-ground	Aerial	Buried	Under-ground
0-5	.50	.33	1.00	.50	.40	.50
5-100	.33	.33	.50	.33	.40	.50
100-200	.25	.33	.50	.25	.40	.40
200-650	.25	.33	.50	.25	.40	.33
650-850	.25	.33	.40	.25	.40	.33
850-2,550	.25	.33	.33	.25	.40	.33
2,550-5,000	.25	.33	.33	.25	.40	.33
5,000-10,000	.25	.33	.33	.25	.40	.33
10,000+	.25	.33	.33	.25	.40	.33

Support

Actual values for the default structure sharing parameters were determined through forward-looking analysis as well as assessment of the existing evidence of structure sharing arrangements. Information concerning present structure sharing practices is available through a variety of sources, as indicated in the references to this section. The HM 3.1 estimates of best forward-looking structure shares have been developed by combining this information with expert judgments regarding the technical feasibility of various sharing arrangements, and the relative strength of economic incentives to share facilities in an increasingly competitive local market. The reasoning behind the Hatfield Model's default structure sharing parameters is described below.

Aerial Facilities:

As noted in the overview to this section, aerial facilities (poles) are already a frequently shared form of structure, a fact that can readily be established through direct observation. For all but the two lowest density zones, the Hatfield Model uses default aerial structure sharing percentages that assign 25 percent of aerial structure costs to the incumbent telephone company. This assignment reflects a conservative assessment of current pole ownership patterns, the actual division of structure responsibility between high voltage (electric utility) applications and low voltage applications, and the likelihood that incumbent telephone companies will share the available low voltage space on their poles with additional attachers.²

ILECs and Power Companies generally have preferred to operate under "joint use," "shared use," or "joint ownership" agreements whereby responsibility for poles is divided between the ILEC and the power company, both of whom may benefit from the presence of third party attachers. New York Telephone

² This sharing may be either of unused direct attachment space on the pole, or via co-lashing of other users' low voltage cables to the ILEC's aerial cables. See, Direct Panel Testimony of Richard Wolf, Clay T. Whitehead, Donald Fiscella, David Peacock and Dr. Miles Bidwell on Behalf of the Electric Utilities, Case 95-C-0341: Pole Attachments, State of New York Public Service Commission, January 27, 1997.

reports, for example, that almost 63 percent of its pole inventory is jointly owned,³ while, in the same proceeding, Niagara Mohawk Power Company reported that 58 percent of its pole inventory was jointly owned⁴. Financial statements of the Southern California Joint Pole Committee indicate that telephone companies hold approximately 50 percent of pole units⁵. Although proportions may vary by region or state, informed opinion of industry experts generally assign about 45 percent of poles to telephone companies. Note that both telephone companies and power companies may lease space on poles solely owned by the other.

While the responsibility for a pole may be joint, it is typically not equal. Because a power company commonly needs to use a larger amount of the space on the pole to ensure safe separation between its conductors that carry currents of different voltages (e.g., 440 volt conductors versus 220 volt conductors) and between its wires and the wires of low voltage users, the power company is typically responsible for a larger portion of pole cost than a telephone company.

Because of the prevalence of joint ownership, sharing, and leasing arrangements, it is unusual for a telephone company to use poles that are not also used by a power company. ILEC structure costs are further reduced by the presence of other attachers in the low voltage space. Perhaps the best example is cable TV. Rather than install their own facilities, CATV companies generally have leased low voltage space on poles owned by the utilities. Thus, the ILECs have been able to recover a portion of the costs of their own aerial facilities through pole attachment rental fees paid by the CATV companies. The proportion of ILEC aerial structure costs recoverable through pole attachment fees is now likely to increase still further as new service providers enter the telecommunications market.

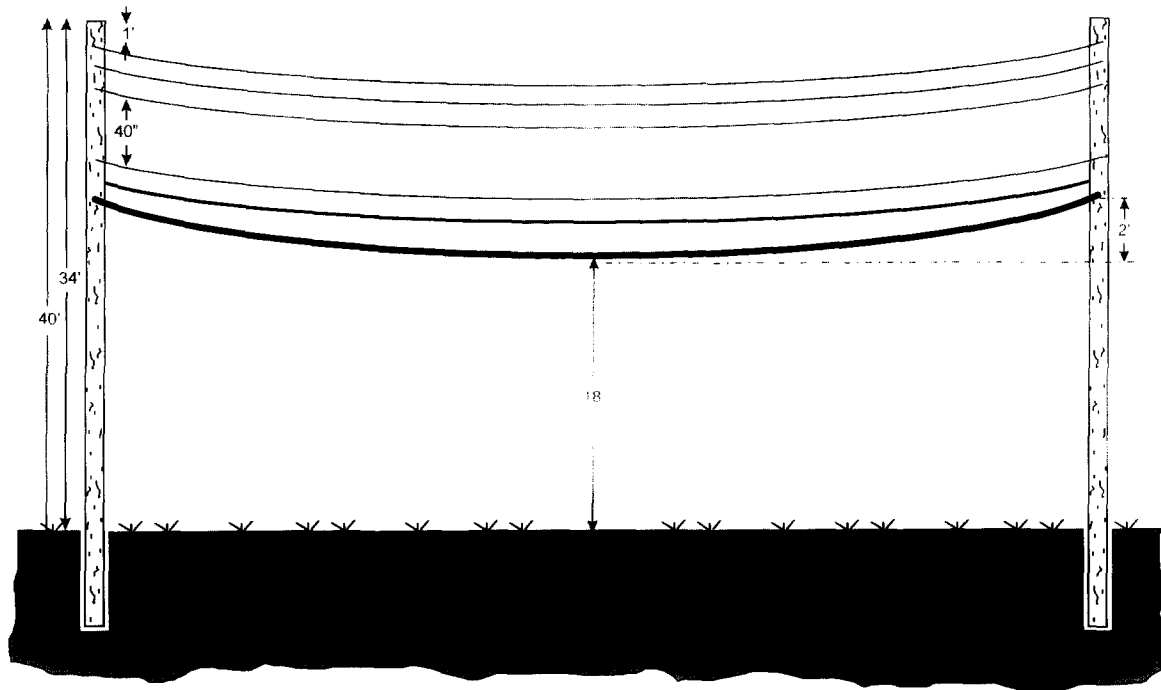
As noted above, the other, most obvious reason for assigning a share of aerial structure costs as low as 25 percent to the ILEC is the way that the space is used on a pole. HM 3.1 assumes that ILECs install the most commonly placed pole used for joint use, a 40 foot, Class 4 pole.⁶ Of the 40 foot pole length, the first six feet are buried in the ground, and the next 20 feet above the ground are unusable to ensure adequate overhead clearance. This leaves about 14 feet of potentially as "usable" space. Of this usable space, roughly half is used by the power company which has greater needs for intercable separation. That leaves the remaining half to be shared by low voltage users, including CATV companies and competing telecommunications providers. The diagram below depicts the situation.

³ New York Telephone's Response to Interrogatory of January 22, 1997, Case 95-C-0341: Pole Attachments, State of New York Public Service Commission, January 27, 1997.

⁴ Direct Panel Testimony of Richard Wolf, Clay T. Whitehead, Donald Fiscella, David Peacock and Dr. Miles Bidwell on Behalf of the Electric Utilities, Case 95-C-0341: Pole Attachments, State of New York Public Service Commission, January 27, 1997. These experts also predicted that sharing of poles among six attachers would not be uncommon.

⁵ "Statement of Joint Pole Units and Annual Pole Unit Changes by Regular Members", Monthly Financial Statements of the Southern California Joint Pole Committee, October, 1996.

⁶ A pole's "class" refers to the diameter of the pole, with lower numbers representing larger diameter poles.



Thus, a) because ILECs generally already bear well less than half of aerial structure costs; b) because ILECs now face increased opportunities and incentives to recover aerial facilities costs from competing local service providers; c) because new facilities-based entrants will be obliged to use ILEC-owned structure to install their own networks; and, d) because the Telecommunications Act requires ILECs to provide nondiscriminatory access to structure as a means of promoting local competition, on a forward-looking basis, it is extremely reasonable to expect that ILECs will need, on average, bear as little as 25 percent of the total cost of aerial structure.

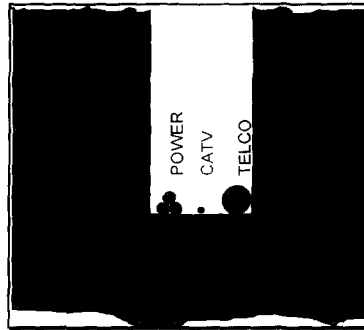
Buried Facilities:

Buried structure sharing practices are more difficult to observe directly than pole sharing practices. Some insight into the degree to which buried structure is, and will be shared can be gained from prevailing municipal rules and architectural conventions governing placement of buried facilities. As mentioned in the overview, municipalities generally regulate subsurface construction. Their objectives are clear: less damage to other subsurface utilities, less cost to ratepayers, less disruption of traffic and property owners, and fewer instances of deteriorated roadways from frequent excavation and potholes.

Furthermore, since 1980, new subdivisions have usually been served with buried cable for several reasons. First, prior to 1980, cables filled with water blocking compounds had not been perfected. Thus, prior to that time, buried cable was relatively expensive and unreliable. Second, reliable splice closures of the type required for buried facilities were not the norm. And third, the public now clearly desires more out-of-sight plant for both esthetic and safety related reasons. Contacts with telephone outside plant engineers, architects and property developers in several states confirm that in new subdivisions, builders typically not only prefer buried plant that is capable of accommodating multiple uses, but they usually dig the trenches at their own expense, and place power, telephone, and CATV cables in the trenches, if the utilities are willing to supply the materials. Thus, many buried structures are available to the LEC at no charge. The effect of such "no charge" use of developer-dug trenches reduces greatly the effective portion of total buried structure cost borne by the LEC. Note, too, that because power companies do not need to use a

disproportionately large fraction of a trench – in contrast to their disproportionate use of pole space, and because certain buried telephone cables are plowed into the soil rather than placed in trenches, the HM 3.1 assumed LEC share of buried structure generally is greater than of aerial structure.

Facilities are easily placed next to each other in a trench as shown below:



Underground Facilities

Underground plant is generally used in more dense areas, where the high cost of pavement restoration makes it attractive to place conduit in the ground to permit subsequent cable reinforcement or replacement, without the need for further excavation. Underground conduit usually is the most expensive investment per foot of structure -- with most of these costs attributable to trenching. For this reason alone, it is the most attractive for sharing.

In recent years, major cities such as New York, Boston, and Chicago have seen a large influx of conduit occupants other than the local telco. Indeed most of the new installations being performed today are cable placement for new telecommunications providers. As an example, well over 30 telecommunications providers now occupy ducts owned by Empire City Subway in New York City.⁷ This trend is likely to continue as new competitors enter the local market.

References

Industry experience and expertise of Hatfield Associates

AT&T and MCI outside plant engineers.

Outside Plant Consultants

Montgomery County, MD Subdivision Regulations

Policy Relating to Grants of Location for New Conduit Network for the Provision of Commercial Telecommunications Services

Monthly Financial Statements of the Southern California Joint Pole Committee.

Conversations with representatives of local utility companies.

New York Telephone's Response to Interrogatory of January 22, 1997, Case 95-C-0341 Pole Attachments, State of New York Public Service Commission, January 27, 1997.

⁷ Empire City Subway is the subsidiary of NYNEX that operates its underground conduits in New York City.

Direct Panel Testimony of Richard Wolf, Clay T. Whitehead, Donald Fiscella, David Peacock and Dr. Miles Bidwell on Behalf of the Electric Utilities. Case 95-C-0341: Pole Attachments, State of New York Public Service Commission. January 27, 1997.

“Statement of Joint Pole Units and Annual Pole Unit Changes by Regular Members”, Monthly Financial Statements of the Southern California Joint Pole Committee. October, 1996

ANALYSIS OF CORPORATE OVERHEADS

The Hatfield Model's 10.4% overhead factor (based on AT&T financials) reflects the outcome of a series of regression analyses undertaken to establish and quantify the relationship between the overall size of an ILEC and its propensity to spend on such corporate overhead functions as human resources, accounting and financial management, planning activities and public relations. Common sense, past experience and a substantial body of academic literature support the view that these expenses are not fixed, but vary directly with the size of the firm. In many cases, expenses normally classified as "overhead" are incurred as a direct result of the firm's normal operating activities. A sales office or manufacturing plant, for example, would generate supporting activity from a personnel organization, salary and benefit administration, real estate or space management, information management, legal staff and executive personnel. Other overhead expenses, e.g., the corporate headquarters establishment, are both justified and supported by the size of the firm.

The relationship between an ILEC's size and its expenditures on corporate overhead functions can be observed directly in ARMIS financial data. Not surprisingly, smaller ILECs spend less, in absolute terms, on corporate overheads than the larger ILECs.

To establish the statistical validity of this observed relationship, a simple, cross-sectional regression analysis was performed using data extracted from 1995 ARMIS 43-02 financial reports for 17 Tier 1 operating companies. These operating companies included the seven RBOCs, GTE/Contel, SNET, United, Cincinnati Bell, ALLTel, Centel, Rochester Telephone Company, Lincoln Telephone Company, Commonwealth, and Puerto Rico Telephone Company. One newly reporting operating company, Citizens of New York, was dropped from the analysis because of acquisitions that might have affected the relationship under study. The dependent variable was defined as Corporate Operations Expense, the sum of ARMIS-defined Executive and Planning Expense (Accounts 6711 and 6712), and General and Administrative Expense (Accounts 6721 through 6728). The independent variable was defined as Total Revenues, less Corporate Operations Expense, a direct measure of the overall scale of the firm's operations. No further adjustments were made to the ARMIS data.

The results of this analysis are summarized below:

$$\text{Corp. Oper. Exp.} = a + b(\text{Total Rev.} - \text{Corp. Oper. Exp.})$$

where:

$$a = 28,442, \quad t \text{ stat} = 0.33$$

$$b = 0.13, \quad t \text{ stat} = 10.19$$

$$R \text{ Sq} = 0.87$$

(See attachment for more complete data)

To control for slightly increasing variance in the error terms (heteroskedasticity), log-transformed data was also tested. This correction resulted in a modest improvement in fit, as indicated by an R Sq. of 0.92. The absence of any residual heteroskedasticity indicates that no important explanatory variables were excluded from the analysis.

These results indicate that there is a statistically significant and positive relationship between the size of the ILEC and its indirect costs, and that, indeed, almost all variation in corporate overhead expenses can be attributable to the scale of the ILECs' operations. Furthermore, the statistically insignificant intercept supports the hypothesis that truly fixed costs are a small portion of total operating costs. Subsequent testing of alternative specifications confirmed the statistical validity of these relationships.

Within the Hatfield Model, this relationship was captured through the use of a loading factor or mark-up to be applied to estimated direct TELRIC costs. On an embedded basis, the weighted average ratio of corporate operations expense to total revenues, less corporate operations expense is approximately 13.6 percent for the Bell operating companies, a figure which reflects their past practices and expenditure patterns as monopoly providers of local telephone services. As opposed to the 13 percent figure implied by the regression analysis, the 13.6 percent reflects both the variable and the fixed portions of overheads. In contrast, this ratio for more competitive capital intensive industries, e.g. the automobile industry, is around 6 percent. The actual mark-up used, then, was reduced to 10.4 percent to reflect likely efficiency gains under increased competition. This lower mark-up was derived from an analysis of AT&T Form M data for 1994, the last year in which this report was filed. It is important to note that the 10.4 percent figure is analogous to the 13.6 percent total overhead figure and not the 13 percent variable overhead figure.

AT&T's recent cost performance provides a useful proxy for the ILECs' likely *forward-looking* proportional overhead costs for two principal reasons: (1) AT&T is a large, formerly regulated firm within the telecommunications industry, and is, thus, more like the ILECs than other capital intensive industries. AT&T has, furthermore, experienced the transition from being a near-monopoly provider of long distance services to being one participant in a highly competitive industry, a transition the ILECs may experience in the future. AT&T's current overhead expenditure ratio, then, provides a reasonable estimate of what the ILECs' overhead expenditure ratios are likely to be under more competitive market conditions. (2) Until the present period, AT&T Communications provided ARMIS reports in the same format, and following the same accounting rules and conventions as the ILECs, thus, permitting more accurate comparisons financial data on an account-specific basis.

<u>Holding Company</u>	<u>Rev less Corp Ops</u>	<u>Corp Ops</u>
Ameritech	9,917,636	878,030
Bell Atlantic	10,954,448	1,208,897
BellSouth	12,374,760	1,525,850
Nynex	10,267,146	1,832,481
Pacific Telesis	6,472,863	1,352,899
Southwestern Bell	8,043,247	817,736
US West	8,108,696	1,105,602
Cincinnati Bell	450,689	166,442
SNET	1,215,436	256,833
Lincoln Telephone	166,598	17,782
Puerto Rico Telephone	999,097	84,879
Rochester Telephone	286,070	28,701
Commonwealth Telephone	121,369	17,736
Central Telephone Co.	886,302	111,748
United Tel. System	2,881,711	331,251
GTE/Contel	10,644,110	1,663,737
ALLTEL	409,134	41,606
	84,199,312	11,442,210
Weighted Average Ratio		13.6%

ESTIMATED RBOC COSTS BY STUDY AREA

BOC	State	LOOP COST MEASURES				BASIC SERVICE COST MEASURES			
		FCC Proxy	NECA Adj USF	HM222	HM31	HM31 USF	BCPM USF	HM31 Plat	HM222 Plat
AM	IL	\$ 13.12	\$ 11.63	\$ 11.17	\$ 11.49	\$ 16.70	\$ 27.33	\$ 15.54	\$ 15.78
AM	IN	\$ 13.29	\$ 15.72	\$ 12.14	\$ 12.70	\$ 18.39	\$ 33.53	\$ 16.91	\$ 17.32
AM	MI	\$ 15.27	\$ 16.04	\$ 12.77	\$ 12.87	\$ 18.02	\$ 31.94	\$ 16.95	\$ 17.36
AM	OH	\$ 15.73	\$ 16.26	\$ 11.68	\$ 12.29	\$ 17.37	\$ 31.02	\$ 16.22	\$ 16.87
AM	WI	\$ 15.94	\$ 14.33	\$ 10.93	\$ 11.98	\$ 17.09	\$ 30.29	\$ 15.94	\$ 15.69
BA	DE	\$ 13.24	\$ 16.74	\$ 12.68	\$ 13.70	\$ 19.42	\$ 21.00	\$ 18.50	\$ 17.21
BA	DC	\$ 10.81	\$ 5.99	\$ 7.07	\$ 8.55	\$ 14.50	\$ 32.30	\$ 13.69	\$ 13.21
BA	MD	\$ 13.36	\$ 16.84	\$ 11.83	\$ 12.80	\$ 18.53	\$ 30.45	\$ 17.51	\$ 16.65
BA	NJ	\$ 12.47	\$ 15.71	\$ 10.92	\$ 11.66	\$ 15.90	\$ 26.67	\$ 15.86	\$ 15.27
BA	PA	\$ 12.30	\$ 15.81	\$ 11.90	\$ 12.44	\$ 17.98	\$ 29.71	\$ 17.02	\$ 16.59
BA	VA	\$ 14.13	\$ 18.49	\$ 12.25	\$ 13.43	\$ 19.68	\$ 32.20	\$ 18.20	\$ 17.06
BA	WV	\$ 19.25	\$ 27.36	\$ 19.12	\$ 20.18	\$ 29.04	\$ 49.79	\$ 27.01	\$ 25.74
BS	AL	\$ 17.25	\$ 19.66	\$ 17.24	\$ 18.66	\$ 25.59	\$ 40.41	\$ 23.57	\$ 22.38
BS	FL	\$ 13.68	\$ 24.19	\$ 11.89	\$ 13.96	\$ 19.10	\$ 34.15	\$ 18.04	\$ 16.14
BS	GA	\$ 16.09	\$ 23.94	\$ 13.99	\$ 14.97	\$ 21.21	\$ 34.90	\$ 19.14	\$ 18.80
BS	KY	\$ 16.70	\$ 22.03	\$ 16.48	\$ 17.17	\$ 24.05	\$ 44.89	\$ 22.71	\$ 22.10
BS	LA	\$ 16.98	\$ 22.89	\$ 14.68	\$ 15.82	\$ 22.62	\$ 37.23	\$ 21.02	\$ 19.79
BS	MS	\$ 21.97	\$ 27.22	\$ 20.81	\$ 21.55	\$ 30.49	\$ 48.93	\$ 28.18	\$ 27.05
BS	NC	\$ 16.71	\$ 24.64	\$ 12.96	\$ 15.35	\$ 22.46	\$ 36.36	\$ 20.01	\$ 18.32
BS	SC	\$ 17.07	\$ 29.40	\$ 14.88	\$ 17.03	\$ 23.64	\$ 38.80	\$ 21.94	\$ 20.42
BS	TN	\$ 17.41	\$ 21.24	\$ 14.86	\$ 16.01	\$ 22.42	\$ 37.95	\$ 20.64	\$ 20.22
NYN	ME	\$ 18.69	\$ 26.29	\$ 16.42	\$ 18.63	\$ 26.57	\$ 42.87	\$ 27.50	\$ 22.65
NYN	MA	\$ 9.83	\$ 17.60	\$ 11.55	\$ 13.10	\$ 19.25	\$ 28.89	\$ 17.69	\$ 16.49
NYN	NH	\$ 16.00	\$ 25.98	\$ 15.66	\$ 17.18	\$ 23.63	\$ 38.62	\$ 23.80	\$ 21.57
NYN	NY	\$ 11.75	\$ 20.70	\$ 11.06	\$ 10.77	\$ 16.81	\$ 26.61	\$ 15.79	\$ 16.22
NYN	RI	\$ 11.48	\$ 17.91	\$ 12.26	\$ 13.50	\$ 18.41	\$ 30.12	\$ 17.80	\$ 16.59
NYN	VT	\$ 20.13	\$ 30.54	\$ 17.54	\$ 18.52	\$ 27.07	\$ 45.03	\$ 26.70	\$ 24.48
PB	CA	\$ 11.10	\$ 13.92	\$ 10.34	\$ 11.12	\$ 16.05	\$ 28.10	\$ 15.18	\$ 15.08
PB	NV	\$ 18.95	\$ 19.21	\$ 20.52	\$ 18.61	\$ 29.87	\$ 40.67	\$ 24.96	\$ 26.34
SN	CT	\$ 13.23	\$ 20.26	\$ 13.59	\$ 14.97	\$ 20.18	\$ 27.54	\$ 19.61	\$ 17.96
SWB	AR	\$ 21.18	\$ 23.44	\$ 16.12	\$ 17.51	\$ 25.27	\$ 43.63	\$ 23.33	\$ 22.20
SWB	KS	\$ 19.85	\$ 19.84	\$ 14.96	\$ 14.49	\$ 20.92	\$ 36.36	\$ 19.77	\$ 21.02
SWB	MO	\$ 18.32	\$ 16.65	\$ 13.36	\$ 13.55	\$ 19.83	\$ 33.71	\$ 17.80	\$ 18.74
SWB	OK	\$ 17.63	\$ 19.39	\$ 15.70	\$ 16.13	\$ 23.48	\$ 38.13	\$ 21.78	\$ 21.32
SWB	TX	\$ 15.49	\$ 18.72	\$ 11.87	\$ 12.64	\$ 18.79	\$ 32.22	\$ 16.98	\$ 16.76
USW	AZ	\$ 12.85	\$ 20.99	\$ 14.88	\$ 13.83	\$ 20.31	\$ 34.54	\$ 18.65	\$ 20.58
USW	CO	\$ 14.97	\$ 20.13	\$ 16.13	\$ 15.70	\$ 21.96	\$ 33.45	\$ 20.81	\$ 23.25

ESTIMATED RBOC COSTS BY STUDY AREA

BOC	State	LOOP COST MEASURES				BASIC SERVICE COST MEASURES			
		FCC Proxy	NECA Adj USF	HM222	HM31	HM31 USF	BCPM USF	HM31 Plat	HM222 Plat
USW ID	Idaho	\$ 20.16	\$ 24.76	\$ 17.02	\$ 16.36	\$ 23.69	\$ 44.04	\$ 22.81	\$ 22.72
USW IA	Iowa	\$ 15.94	\$ 12.62	\$ 13.25	\$ 14.03	\$ 19.61	\$ 35.50	\$ 19.14	\$ 19.86
USW MN	Minnesota	\$ 14.81	\$ 16.29	\$ 12.55	\$ 12.85	\$ 19.20	\$ 32.56	\$ 17.44	\$ 18.75
USW MT	Montana	\$ 25.18	\$ 22.27	\$ 19.73	\$ 18.62	\$ 26.50	\$ 44.12	\$ 25.82	\$ 26.56
USW NE	Nebraska	\$ 18.05	\$ 15.40	\$ 16.38	\$ 15.35	\$ 24.79	\$ 36.28	\$ 22.60	\$ 28.05
USW NM	New Mexico	\$ 18.66	\$ 22.42	\$ 17.82	\$ 17.12	\$ 25.24	\$ 40.98	\$ 22.24	\$ 23.39
USW ND	North Dakota	\$ 25.36	\$ 18.74	\$ 14.34	\$ 13.92	\$ 19.81	\$ 46.63	\$ 19.39	\$ 19.76
USW OR	Oregon	\$ 15.44	\$ 20.57	\$ 14.38	\$ 14.69	\$ 20.35	\$ 34.85	\$ 19.15	\$ 19.31
USW SD	South Dakota	\$ 25.33	\$ 17.45	\$ 14.82	\$ 14.86	\$ 21.62	\$ 50.23	\$ 20.49	\$ 20.93
USW UT	Utah	\$ 15.12	\$ 15.74	\$ 15.01	\$ 14.59	\$ 20.65	\$ 33.69	\$ 19.32	\$ 21.35
USW WA	Washington	\$ 13.37	\$ 15.87	\$ 12.55	\$ 12.72	\$ 18.32	\$ 31.03	\$ 17.07	\$ 17.29
USW WY	Wyoming	\$ 25.11	\$ 29.66	\$ 24.15	\$ 26.52	\$ 35.02	\$ 95.98	\$ 32.41	\$ 30.26
Average		\$ 16.46	\$ 19.79	\$ 14.41	\$ 15.03	\$ 21.58	\$ 37.07	\$ 20.22	\$ 19.99
Weighted Avg		\$ 14.37	\$ 18.41	\$ 12.73	\$ 13.40	\$ 19.29	\$ 32.40	\$ 18.02	\$ 17.83

CORRELATION COEFFICIENTS

	LOOP COST MEASURES				BASIC SERVICE COST MEASURES			
	FCC Proxy	NECA Adj USF	HM222	HM31	HM31 USF	BCPM USF	HM31 Plat	HM222 Plat
FCC Proxy	1.00							
NECA Adj USF	0.51	1.00						
HM222 Loop	0.75	0.70	1.00					
HM31 Loop	0.70	0.78	0.95	1.00				
HM31 USF	0.71	0.74	0.96	0.98	1.00			
BCPM USF	0.75	0.57	0.78	0.83	0.79	1.00		
HM31 Plat	0.72	0.77	0.94	0.98	0.98	0.79	1.00	
HM222 Plat	0.75	0.61	0.96	0.89	0.93	0.74	0.92	1.00

ESTIMATED RBOC COSTS BY STUDY AREA

BOC		RATIOS				Households
		Loop	Basic Service			
		HM31:NECA	HM31:NECA	BCPM:NECA	BCPM:HM31	
AM	IL	99%	144%	235%	164%	3,404,485
AM	IN	81%	117%	213%	182%	1,218,609
AM	MI	80%	112%	199%	177%	2,837,134
AM	OH	76%	107%	191%	179%	2,358,962
AM	WI	84%	119%	211%	177%	1,187,899
BA	DE	82%	116%	125%	108%	265,115
BA	DC	143%	242%	539%	223%	222,484
BA	MD	76%	110%	181%	164%	1,821,548
BA	NJ	74%	101%	170%	168%	2,783,602
BA	PA	79%	114%	188%	165%	3,313,793
BA	VA	73%	106%	174%	164%	1,750,000
BA	WV	74%	106%	182%	171%	564,075
BS	AL	95%	130%	206%	158%	1,160,038
BS	FL	58%	79%	141%	179%	3,237,216
BS	GA	63%	89%	146%	165%	2,029,551
BS	KY	78%	109%	204%	187%	789,841
BS	LA	69%	99%	163%	165%	1,381,090
BS	MS	79%	112%	180%	160%	870,553
BS	NC	62%	91%	148%	162%	1,223,270
BS	SC	58%	80%	132%	164%	869,716
BS	TN	75%	106%	179%	169%	1,498,370
NYN	ME	71%	101%	163%	161%	368,900
NYN	MA	74%	109%	164%	150%	2,227,621
NYN	NH	66%	91%	149%	163%	335,471
NYN	NY	52%	81%	129%	158%	5,930,295
NYN	RI	75%	103%	168%	164%	273,904
NYN	VT	61%	89%	147%	166%	175,924
PB	CA	80%	115%	202%	175%	8,145,099
PB	NV	97%	156%	212%	136%	162,716
SN	CT	74%	100%	136%	136%	1,198,735
SWB	AR	75%	108%	186%	173%	574,269
SWB	KS	73%	105%	183%	174%	776,550
SWB	MO	81%	119%	202%	170%	1,447,942
SWB	OK	83%	121%	197%	162%	962,097
SWB	TX	68%	100%	172%	171%	4,903,950
USW	AZ	66%	97%	165%	170%	1,441,529
USW	CO	78%	109%	166%	152%	1,372,964

ESTIMATED RBOC COSTS BY STUDY AREA

BOC	RATIOS				Households
	Loop	Basic Service			
	HM31:NECA	HM31:NECA	BCPM:NECA	BCPM:HM31	
USW ID	66%	96%	178%	186%	295,328
USW IA	111%	155%	281%	181%	677,872
USW MN	79%	118%	200%	170%	1,221,597
USW MT	84%	119%	198%	166%	220,036
USW NE	100%	161%	236%	146%	325,583
USW NM	76%	113%	183%	162%	498,499
USW ND	74%	106%	249%	235%	133,057
USW OR	71%	99%	169%	171%	755,455
USW SD	85%	124%	288%	232%	164,423
USW UT	93%	131%	214%	163%	568,531
USW WA	80%	115%	196%	169%	1,350,151
USW WY	89%	118%	324%	274%	144,781
					71,440,630

	HM31:NECA	HM31:NECA	BCPM:NECA	BCPM:HM31
Average	78%	113%	195%	171%
Weighted Avg	75%	108%	181%	168%
Minimum	52%	79%	125%	108%
Maximum	143%	242%	539%	274%
Std Dev	15%	26%	64%	25%
<u>Unweighted</u>				
Ameritech	84%	120%	210%	176%
Bell Atlantic	86%	128%	223%	166%
BellSouth	71%	99%	166%	168%
NYNEX	67%	96%	153%	161%
Pacific	88%	135%	207%	156%
Southwestern	76%	111%	188%	170%
US West	82%	119%	218%	184%
<u>Weighted</u>				
Ameritech	85%	122%	211%	174%
Bell Atlantic	77%	111%	185%	166%
BellSouth	68%	95%	161%	169%
NYNEX	60%	90%	141%	157%
Pacific	80%	116%	202%	174%
Southwestern	73%	107%	182%	170%
US West	80%	115%	197%	171%